

WHAT IS CLAIMED IS:

1. A content management method, comprising:  
encrypting content data by a first key;  
encrypting the first key by predetermined plural  
5 types of second keys;  
multiply encrypting the encrypted first key by a  
third key;  
encrypting the third key by a predetermined fourth  
key; and  
10 recording in a recording medium content data  
encrypted by the first key, the first key encrypted by  
the predetermined plural types of second keys, and the  
first key obtained by multiply encrypting the encrypted  
first key by the second and third keys, and recording  
15 the third key encrypted by the fourth key in a security  
region of the recording medium.
2. A content management method according to  
claim 1, wherein the first key is provided in  
plurality, the content data is provided in plurality,  
20 each of which is encrypted separately, and the  
encrypted first key is generated in plurality.
3. A content management method according to  
claim 1, wherein the third key is provided in plurality  
according to the number of the plurality of first keys  
25 provided according to the number of the plurality of  
content data, and the plurality of encrypted first keys  
are recorded to be multiply encrypted individually by

a plurality of third keys.

4. A content management method according to claim 1, wherein a recording medium having recorded therein the encrypted content data, the first key  
5 encrypted by the second key, and the first key multiply encoded by the second and third keys is identical to a recording medium in which there exists a security region in which the third key encrypted by the fourth key is recorded.

10 5. A content management method according to claim 1, wherein one of the second keys is specific information of the recording medium.

6. A content management method according to claim 1, wherein the content management method is  
15 implemented in a recording apparatus having an encoder module and a drive communicated therewith via an authentication process, and the third key is a key generated only in the drive.

7. A content management method according to claim 1, wherein the first key encrypted by the second  
20 key and the first key multiply encoded by the second and third keys are recorded in a different recording area of the recording medium.

8. A content management method according to claim 1, wherein, in the case where content data is  
25 moved from the first recording medium to a second recording medium, the content data is re-encrypted

after being decrypted, the encrypted content data and only the encryption key for controlling movement of content are recorded in the second recording medium, and an encryption key for control movement of contents  
5 recorded in the first recording medium is deleted.

9. A content management method according to claim 8, wherein, in the case where content data is moved to a third recording medium from the second recording medium having recorded therein only the  
10 encryption key for controlling movement of contents, the content data is re-encrypted after being decrypted, the encrypted content data and the encryption key for controlling movement of contents are recorded in the third recording medium, and the encryption key for  
15 controlling movement of contents of the second recording medium is deleted, thereby carrying out processing for moving contents between the recording mediums.

10. A content management method according to claim 1, further comprising:  
20

generating key source data by a specific random number generator;

multiplying a specific function based on information for specifying the plurality of content  
25 data to generate a plurality of third keys;

recording the plurality of third keys as the multiply encrypted key of a plurality of encrypted

first keys, with a plurality of encrypted content data and a multiply encrypted first key in a recording medium; and

5        encrypting the key source data generated by the random number generator by means of a predetermined encryption key, and then, recording the encrypted data in a security region of the recording medium.

11. A content management method according to claim 1, further comprising:

10        in the case where the first key encrypted by the second key and the first key multiply encoded by the second and third keys each are recorded as independent file data in an independent recording area, providing an encrypted encryption key file having identification  
15        information indicating whether file key data is the first key encrypted by the second key or the first key multiply encoded by the second and third keys at the beginning of the key file of the storage area or at a predetermined position and identification information  
20        indicating whether a respective counterpart key file exists or not.

12. A content management method according to claim 11, wherein the encrypted encryption key file is multiply written a plurality of times.

25        13. A content management method according to claim 1, further comprising:

in a reproduction process of the first recording

medium and a second recording medium having recorded therein a security region the encrypted content data, the first key multiply encoded by the second and third keys, and the third key encrypted by the fourth key,

5           in the first recording medium, reading out the first key encrypted by the second key, decrypting the first key encrypted by predetermined plural types of second keys, reading out the encrypted content data, and decrypting content data by the decrypted first key,  
10           thereby carrying out reproduction, and

          in the second recording medium, reading out the third key encrypted from the security region, decrypting the third key encrypted by predetermined plural types of fourth keys, reading out the second key  
15           multiply encoded by the second and third keys to detect the first key decrypted by the third key and encrypted by the second key, decrypting the first key encrypted by the predetermined plural types of second keys, and decrypting the encrypted content data by the decrypted  
20           first key, thereby carrying out reproduction.

14. A recording apparatus comprising:

          an encrypting portion which encrypts assigned content data by a first key, encrypts the first key by predetermined plural types of second keys, multiply  
25           encrypts the encrypted first key by a third key, and encrypts the third key by a predetermined fourth key; and

recording portions which records in a first recording medium the content data encrypted at the encrypting portion, the first key encrypted by the second key, and the first key multiply encoded by the second and third keys, and records the third key encrypted by the fourth key in a security region.

15. A recording apparatus according to claim 14, further comprising:

processing portions which, in the case where content data is moved from the first recording medium to a second recording medium, encrypts the content data after being decrypted, records only an encrypted content data and an encryption key for controlling movement of contents in the second recording medium, and deletes the encryption key for controlling movement of contents recorded in the first recording medium, and;

in the case where content data is moved to a third recording medium from a recording medium having recorded therein only the encryption key for controlling movement of contents as in the second recording medium, re-encrypts content data after being decrypted, recording the encrypted content data and the encryption key for controlling movement of contents in the third recording medium, and deletes the encryption key for controlling movement of contents of the second recording medium which is a source medium, thereby

carrying out processing for moving content data between the recording mediums.

16. A recording apparatus according to claim 14, further comprising:

5           processing portions which encrypts a plurality of content data individually by a plurality of first keys, encrypts the plurality of first keys by predetermined plural types of second keys,

          and in the case where the processing portion  
10       encrypts the encrypted first keys by a plurality of third encryption keys, which generates key source data by a specific random number generator, and which multiplies a specific function based on information for specifying the plurality of content data to generate  
15       a plurality of third keys,

          and the processing portions records the plurality of third keys as a plurality of encrypted first keys, records in a recording medium, with a plurality of encrypted content data and multiply encrypted first  
20       key,

          and the processing encrypts the key source data generated by the random number generator by a predetermined encryption key, and records the encrypted data in a security region of the recording medium.

25       17. A recording apparatus according to claim 14, further comprising:

          processing portions which, in the case where the

first key encrypted by the second key and the first key multiply encoded by the second and third keys are recorded as independent file data, respectively, in an independent recording area of the first recording medium,

records an encrypted encryption key file having identification information indicating whether file key data is the first key encrypted by the second key or the first key multiply encoded by the second and third keys at the beginning of the key file or at a predetermined position and identification information indicating whether a respective one of the counterpart keys file exists.

18. A recording medium having stored the following in a storage region of a first recording medium:

content data encrypted by a first key;

a first key encrypted by encrypting the first key by predetermined plural types of second keys;

a first key obtained by multiply encrypting the encrypted first key by a third key; and

a third key obtained by encrypting the third key by a predetermined fourth key.

19. A recording medium according to claim 18, further comprising, second and third recording mediums which is different from the first recording medium and have recorded therein the content data encrypted by the first key and the encryption key for controlling



movement of contents obtained by multiply encrypting the first key.

20. A recording medium according to claim 18, wherein the first recording medium generates key source data by a specific random number generator; and  
5 multiplies a specific function by an identification code of content data or the number determined by order numbers or the like, thereby generating the plurality of third keys; and wherein these keys are employed as  
10 a multiply encrypted key of a plurality of the encrypted first keys, a plurality of encrypted content data and multiply encrypted first key are recorded, and further, the key source data generated by the random number generator is encrypted by a predetermined  
15 encryption key, and is recorded in a security region.